NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

PEST MANAGEMENT

(Acre)

CODE 595

DEFINITION

Utilizing environmentally sensitive prevention, avoidance, monitoring and suppression strategies to manage weeds, insects, diseases, animals and other organisms (including invasive and non-invasive species) that directly or indirectly cause damage or annoyance.

PURPOSES

This practice is applied as part of a Resource Management System (RMS) to support one or more of the following purposes:

- Enhance quantity and quality of commodities.
- Minimize negative impacts of pest control on soil resources, water resources, air resources, plant resources, animal resources and/or humans.

CONDITIONS WHERE PRACTICE APPLIES

Wherever pests will be managed.

CRITERIA

General Criteria Applicable to All Purposes

A pest management component of a conservation plan shall be developed.

All methods of pest management must comply with Federal, State, and local regulations, including management plans for invasive pest species, noxious weeds and disease vectors. Compliance with the Food Quality Protection Act (FQPA); Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); Worker Protection Standard (WPS); and Interim Endangered Species Protection Program (H7506C) is required for chemical pest control.

Integrated Pest Management (IPM) is a sustainable approach to pest control. It shall be used to maintain pest population below economically damaging levels while minimizing harmful effects on human health and the environment.

Integrated Pest Management suppression systems include biological controls, cultural controls and the judicious use of chemicals.

A summary of Integrated Pest Management Principles is included as **Appendix 1**. Additional IPM information, including Texas Pest Management Association (TPMA) Scouting Programs and a list of Extension IPM Specialists can be obtained at: http://www.tpma.org..

Essential elements of an IPM strategy will include field scouting of both crops and pests and the use of economic thresholds as treatment guidelines when they are available from Texas Cooperative Extension (TCE) at: http://txipmnet.tamu.edu/index.html .

Prevention Avoidance Monitoring and Suppression (PAMS) techniques are an integral part of the IPM plan and will be documented using **Appendix 2**. At least one management activity from the Prevention Section and two each from the Avoidance, Monitoring and Suppression Sections of the PAMS Index will be adopted and incorporated in the Pest Management Component of the Conservation Plan.

An appropriate set of conservation practices or management activities will be implemented to minimize the movement of pesticides from the treatment zone. A partial list of conservation practices and management activities that are known to be effective for reducing the negative impacts of pesticides are listed in **Appendix 3**. Additional practices are available in the NRCS Field Office Technical Guide and Texas Cooperative Extension Service Publications.

The pest management component must be integrated with other components of the conservation plan.

Pesticide label instructions that identify environmental hazards, site specific application criteria and Texas Cooperative Extension recommendations must be followed.

Additional Criteria to Protect Soil Resources

In conjunction with other conservation practices, the number, sequence and timing of tillage operations shall be managed to maintain soil quality and maintain soil loss at or below the soil loss tolerance (T) or any other planned soil loss objective.

Current erosion prediction tools such as (RUSLE), (WEQ) or similar tools will be used to monitor soil erosion. Rating procedures such as the Soil Conditioning Index (SCI) and/or Soil Tillage Intensity Rating (STIR) will be used when appropriate to monitor soil quality.

Pesticide label instructions will be followed to limit pesticide residues in soil that may negatively impact non-target plants, animals and humans.

Additional Criteria to Protect Water Resources

Pesticides used in Texas that may impact surface and ground water are identified in **Appendix 4**.

WIN-PST will be used to evaluate soil pesticide interactions and estimate a hazard rating for all fields where application of one or more of the pesticides identified in **Appendix** 4 is planned.

The WIN-PST program can be obtained at the following USDA web site: http://www.wcc.nrcs.usda.gov/pestmgt/winpst.html

Hazard Ratings are divided into five classes. These are:

X - Extra High

H - High

I - Intermediate

L - Low

VL - Very Low

Hazard Ratings of Low or Very Low do not require any additional action as long as they are used according to the label and meet e-FOTG resource quality criteria.

A Hazard Rating of Intermediate will require implementation of at least one conservation system, practice, or management activity listed in **Appendix 5A** for surface runoff concerns and/or **5B** to for leaching concerns.

Hazard Ratings of High or Extra High will require implementation of at least two conservation systems, practices, and/or management activities from **Appendix 5A** to address surface runoff concerns and **5B** to address leaching concerns.

Additional conservation systems, practices or management activities may not be effective for Extra High hazard ratings if the resources are highly sensitive or a high degree of resource protection is desired. In these cases, an effective, economically acceptable pesticide with a lower risk or an alternate method of pest control may be required to meet water quality criteria.

Follow pesticide label restrictions regarding soil texture, depth to water table and mixing,

loading and application setback distances for wells, streams, rivers, natural and impounded lakes and reservoirs.

The number, sequence and timing of tillage operations shall be managed in conjunction with other sediment control tactics and practices, to minimize sediment losses to nearby surface water bodies.

The CroPMan crop production and management model, developed by TAES Blackland Research and Experiment Station, may be used to make a more detailed analysis of specific situations in order to assess the need for additional practices or the effectiveness of options proposed. As CroPMan is a higher level screening tool than WIN-PST, it may be run in lieu of the WIN-PST program. CroPMan should only be used by trained individuals. Additional information about CroPMan is located at http://cropman.brc.tamus.edu .

Additional Criteria to Protect Air Resources

Pesticide label instructions to minimize volatilization and drift that may negatively impact non-target plants; animals and humans will be followed.

Avoid spray drift by applying pesticides only when the wind speed does not exceed label restrictions or local, state or federal regulations and the wind direction is away from sensitive areas.

Additional Criteria to Protect Plant Resources

Special attention should be paid to pesticide label instructions including those that:

- Prevent misdirected pesticide applications that negatively impact non-target plants, animals and humans by following label instructions and remove pesticide residues from sprayers before moving to the next crop.
- When pesticide incorporation is recommended, incorporate to the depth specified on the label to minimize damage to non-target species.
- Pesticides will only be applied at the proper crop stage and under appropriate climatic conditions.
- Follow the recommended label rotational intervals to avoid injury to subsequent crops in the rotation.

Additional Criteria to Protect Animal Resources

Special attention should be paid to pesticide label instructions in order to avoid injury to domestic animals, wildlife and aquatic organisms.

Additional Criteria to Protect Humans

The label instructions, as well as local, state and federal regulations that concern posting and field re-entry restrictions on treated areas will be followed.

- All pesticides will be handled and properly applied in order to protect the user and the environment from adverse effects.
- Avoid unnecessary exposure to pesticides during mixing, handling and application by wearing protective clothing and using the equipment specified on the label.
- Pesticides will be stored according to label directions and as specified by local, state and federal regulations.
- All used pesticide containers will be rinsed and disposed of according to label directions and as specified by local, state and federal regulations.
- In case of accidental exposure, follow the instructions on the label.

CONSIDERATIONS

Use of a trained IPM professional to develop and implement the IPM strategy is strongly encouraged.

NRCS, Texas

June, 2004

When commodity-specific IPM is not available; the following IPM principles should be considered:

- Encourage the use of systems that utilize the most appropriate means of pest management including cultural, biological and chemical methods.
- Use strategies such as pest scouting, soil testing and weather forecasting to help target suppression strategies, avoid routine preventative pest control and avoid unnecessary and poorly timed pesticide applications.
- Base pesticide selection on characteristics such as water solubility, toxicity to non-target organisms, degradation, adsorption, efficiency and cost.
- Plan erosion control practices to minimize soil loss and runoff that can transport absorbed or dissolved pesticides to surface waters.
- Soil pH, plant nutrients, soil moisture and soil condition will be managed to reduce plant stress, improve plant vigor and increase the plants overall ability to tolerate pests.
- Irrigation water should be managed to avoid conditions that are conducive to disease development and to minimize pest management environmental risks.

PLANS AND SPECIFICATIONS

The pest management component of a conservation plan shall be prepared in accordance with the criteria of this standard and shall describe the requirements for applying the practice to achieve its intended purpose(s).

As a minimum, the pest management component of a conservation plan shall include:

- A plan map and soil map of the managed site will be a part of the conservation plan.
- If applicable, use a location map to identify sensitive areas and setbacks.
- A summary of the IPM plan including:
  - Crops to be grown and any anticipated pest problems.
  - A field scouting plan and economic treatment thresholds of anticipated pests (or a notation of the Texas Pest Management Association IPM Unit, independent private consultant or scouting service that will be performing these functions). For crops and pests without defined treatment thresholds a scouting plan consisting of a schedule of when field scouting will occur for each crop and identifying the pest(s) to be scouted (see pest scouting section of **Appendix 1),** will meet the requirement of this element.
  - A list of the additional IPM Management Practices that are planned for each field based on the PAMS Index (**Appendix 2** completed).
  - Select pesticides, which provide the desired crop protection and minimize the potential for surface and ground water contamination.
  - Notation of **Appendix 4** pesticides that are planned to be used during the planned rotation.
  - An environmental risk analysis (WIN-PST Soil/Pesticide Interaction Loss Potential and Hazard Rating Report) for probable pest management recommendations will be utilized when pesticides listed in **Appendix 4** are planned. The risk

analysis will include: ratings for Leaching Potential (ILP), Solution Runoff Potential (ISRP), Absorbed Runoff Potential (ISRP), and Human and Fish Hazard Ratings.

- Additional conservation systems, practices, and/or activities required if pesticides noted in **Appendix 4** are planned and the WIN-PST Human or Fish Hazard Rating is Intermediate or higher (**Appendix 5A** and/or **5B** completed).

OPERATION AND MAINTENANCE

The producer is responsible for the proper implementation of this practice and this includes the operation and maintenance of all equipment. Operation and maintenance shall address the following:

- Plans shall be reviewed annually to incorporate new IPM technology, respond to cropping system and pest complex changes and avoid development of pest resistance.
- Maintain IPM practices and the practices that are needed to mitigate pesticide movement that are identified in the plan to ensure continued effectiveness.
- Develop a safety plan for individuals exposed to chemicals, including telephone numbers and addresses of emergency treatment centers for individuals exposed to chemicals and the telephone number for the nearest poison control center.
- The National Pesticide Telecommunications Network (NPTN) telephone number in Corvallis, Oregon may also be used in non-emergency cases by calling **1-800-424-7378**, Monday through Saturday, between 6:30 AM to 4:30 PM Pacific Time.
- For advice and assistance with emergency spills that involve agrichemicals, the local emergency telephone number should be provided. The national 24-hour CHEMTREC telephone number is **1-800-424-9300**.
- Follow label requirements for mixing/loading setbacks from wells, intermittent streams and rivers, natural or impounded ponds and lakes, or reservoirs.
- Locate all pesticide mixing areas and storage and supply areas at least 150 feet away from any well or surface water body and down slope of wells. Never leave a spray tank unattended during filling.
- Prevent the contamination of water supplies by keeping the filler hose or pipe out of the spray tank at all times.
- Install an anti-siphon device to prevent back flow. Pesticides used in chemigation shall be labeled for this method of application and all chemigation systems must be fitted with an anti-siphon device to prevent back flow.
- Post signs according to label directions and/or Federal, State, and local laws around sites that have been treated. Follow restricted entry intervals.
- Dispose of pesticides and pesticide containers in accordance with label directions and adhere to Federal, State, and local regulations. Read and follow label directions and maintain appropriate Material Safety Data Sheets (MSDS).
- Calibrate application equipment according to manufacturer recommendations before each seasonal

use and with each major chemical change.

- Replace worn nozzle tips, cracked hoses, and faulty gauges.
- Each field should be individually monitored and written field scouting reports with field counts for pests should be maintained for at least two years.
- Pesticide application records will be developed and maintained in accordance with Texas Department of Agriculture guidelines. TDA Regulations and record keeping requirements may be found obtained at the following web site: http://www.agr.state.tx.us/pesticide/.

APPROVAL AND CERTIFICATION

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CODE 595

PRACTICE STANDARD APPROVED:

_____/s/ Monty Dollar_____ **_____6/25/04_____**

State Agronomist **Date**

This practice standard is needed in the _____ Field Office Technical Guide.

_____ _____

District Conservationist **Date**

CERTIFICATION:

Reviewed and determined adequate without need of revision.

_____ _____

Technical Specialist (Agronomy) **Date**

_____ _____

Technical Specialist (Agronomy) **Date**